

DIPTERA FROM NEPAL

PSYCHODIDAE

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SYNOPSIS

This collection contained twenty-four specimens, representing four known genera, five new species and one new subspecies.

UP to this date, only two species of Diptera of the family Psychodidae have been recorded from India, *Horaiella prodigiosa* Tonnoir (subfamily Trichomyiinae) and *Telmatoscopus* (*Neotelmatoscopus*) *horai* Tonnoir (subfamily Psychodinae) but, in the collections of the British Museum Nat. Hist.), I examined a male specimen labelled *Pericoma metatarsalis* Brun. var *khasiensis* Senior White, India, Khasia Hills, Mawphlang, 10.x.1920.

Mr. R. L. Coe, of the British Museum, collected in 1961 and 1962, several Psychodid flies in Nepal, in the Taplejung district. One was caught below Tamrang Bridge, at an elevation of 5,500 ft., all the others were from Sangu, at 6,200 ft. They all belong to the subfamily Psychodinae, and I wish to express my thanks to Mr. Coe for the opportunity to study them. The flies were pinned, but I had to boil them in caustic potash and mount them on slides, after noting the colour of their vestiture. The types (on slides) are now in the British Museum (Nat. Hist.).

Trichopsychoda atra sp. n.

(Text-figs. 1-6)

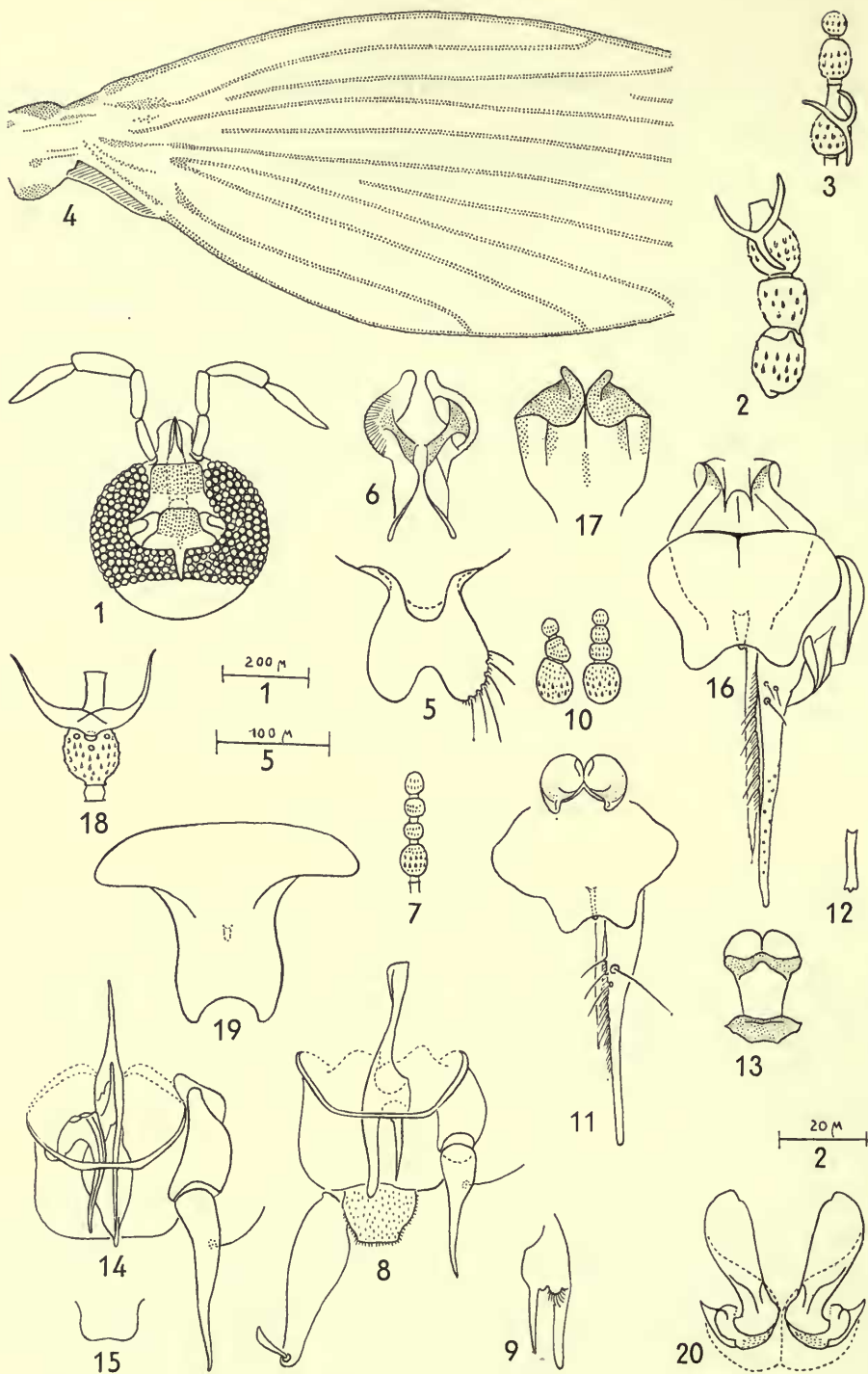
♀. On the whole body, the hairs are dark brown or black. The eyes touch each other at their posterior internal angles. The antennae have only 14 segments and their ratio is: 20. 15. 21. 23. 24. 24. 24. 24. 24. 24. 24. 20. 14. 7. Each segment from 3 to 13 has a pair of Y-shaped ascoids. Ratio of segments of palpus: 29. 32. 43. 50. The wing has dark brown hairs on its proximal part, up to the level of fork M_1+M_2 ; on its distal part, the wing has a golden covering; the fringe is also golden in the distal part of the wing, but brown at its tip; a few stout dorsal bristles just posterior to the costal vein; subcostal vein very short; the wing is as acute as it is in *Tr. africana* Quate and the nerve R_5 ends exactly at the apex. The subgenital plate is crescent shaped and has long hairs on its posterior margin.

Wing length 2.0 mm.

Holotype ♀. Sangu, at light on camp site, 3.x.1961.

All species of *Trichopsychoda* described up to this date have 15- or 16-segmented antennae, and the terminal two or three segments are subspherical. Thus *Tr. atra*, in having 14-segmented antennae, is different from the other species, and the definition of the genus *Trichopsychoda*, as given by L. W. Quate, does not apply to it entirely. The end of one of the antennae of the only specimen examined is missing

Bull. Brit. Mus. (Nat. Hist.), Entom., 17 (5), 1965.



and it is possible that one or two segments were detached from the other antenna ; a close examination seems to show that this is not true.

By its wing venation, *Tr. atra* n. sp. is closely related to *Tr. africana* Quate, from South Africa.

***Psychoda cinerea indica* ssp. n.**

(Text-figs. 7-13)

♂. Head with dark brown vestiture ; ratio of segments of antennae : 27. 17. 27. 27. 30. 31. 31. 31. 30. 30. 26. 26. 11. 6. 6. 6. Ratio of segments of palpi : 23. 28. 35. 43. Thorax with dark brown vestiture ; a wide light brown tuft of hairs between the wings. Covering light brown on legs, from their base to the $\frac{3}{4}$ of the first joint of the tarsi ; covering dark brown on the distal part of the tarsi. Wings 0.40 times as wide as long, with light brown hairs. Halteres black on their stem and the base of their knob, light brown on the larger part of their knob. Wing length 1.3 mm.

Holotype ♂. Sangu, swarming at dusk in bushy gully, 23.xi.1961, 9.i.1962.

Ps. cinerea indica differs from *Ps. cinerea cinerea* Banks from Europe (Text-figs. 14-15) by the proportions of the wing and by the shape of the aedeagus. The wing of *Ps. cinerea cinerea* is 0.34 times as wide as long.

♀. A specimen, captured also at Sangu, is probably of the same subspecies ; though its colour is different from that of the ♂, the shape of the wings is the same, and the ratio of the antennal segments is not very different.

Head with light brown vestiture. The left antenna is abnormal, for its 14th and 15th segments are partly fused ; ratio of segments of right antenna : 27. 17. 27. 28. 28. 28. 28. 28. 28. 28. 26. 23. 13. 5. 5. 5. Ratio of segments of palpi : 21. 26. 26. 35. Thorax with a parting on the medio dorsal line, ochraceous, but with a large reddish brown patch on each shoulder. Wing 0.40 times as wide as long, with ochraceous covering. Each cercus has a long ventral seta.

Wing length 1.7 mm.

1 ♀, Sangu, at light on camp site, 3.x.1961.

FIGS. 1-20. *Trichopsychoda* and *Psychoda* spp. 1-6. *Tr. atra* sp. n., ♀. 1, head, dorsal side ; 2, first three segments of antenna ; 3, tip of antenna ; 4, proximal part of wing ; 5, subgenital plate ; 6, armature of genital accessory vesicles, ventral view on left, more dorsal view on right. 7-9. *Ps. cinerea indica* ssp. n., ♂. 7, tip of antenna ; 8, genitalia, dorsal view ; 9, distal part of aedeagus, ventral view. 10-13. *Ps. cinerea indica* ssp. n., ♀. 10, tips of both antennae ; 11, subgenital plate, left half of ovipositor and armature of genital accessory vesicles, ventral view ; 12, dorsal lobe of subgenital plate, enlarged. 13, armature of genital accessory vesicles, dorsal view. 14-15. *Ps. cinerea cinerea* Banks, ♂. 14, genitalia, dorsal view ; 15, plate that is between the IXth sternite of the abdomen and the aedeagus. 16-17. *Ps. cinerea cinerea* Banks, ♀. 16, subgenital plate, left half of ovipositor and armature of accessory vesicles, ventral view ; 17, armature of genital accessory vesicles, dorsal view. 18-20. *Ps. magna* sp. n., ♀. 18, 6th segment of antenna ; 19, subgenital plate, ventral view ; 20, armature of genital accessory vesicles, dorsal view.

Figs. 1 and 4 to the same scale ; figs. 5-11, 13-17 and 19 to the same scale ; figs. 2, 3, 12, and 18 to the same scale.

The wings of ♀ specimens of *Ps. cinerea cinerea* from Europe (Text-figs. 16, 17) are 0.36 times as wide as long, and their subgenital plate is quite different from that of *Ps. cinerea indica*.

Psychoda magna sp. n.

(Text-figs. 18-20)

♀. The only specimen available has lost much of its covering and the distal part of both antennae. Eyes separated by distance equal to about 1 facet and a half. Ratio of the first seven antennal segments: 27. 20. 32. 34. 35. 35; a pair of flat and bifurcate ascoids on each segment from 3 to 7. Ratio of the segments of the palpi: 26. 26. 28. 43. Wing venation almost similar to that of *Ps. cinerea*; the medial fork is at the same distance from the apex of the wing as from the hollow at the tip of the anal vein. The wing is acute and the nerve R_5 ends at the apex; the costal cell has a brownish tinge. Subgenital plate of conspicuous shape. Cerci rather short.

Wing length: 3.2 mm.

Holotype ♀. Sangu, spray-splashed rocks in shallow ravine, 13.i.1962.

Ps. magna differs from all other species of the same genus in the shape of its subgenital plate, the posterior part of which has parallel sides and a very small dorsal process far from the hind margin.

Telmatoscopus (Telmatoscopus) arcuatus sp. n.

(Text-figs. 21-31)

♂. Vestiture of the whole body tawny. Eyes broadly contiguous; bridge with 3 or 4 rows of facets. Ratio of segments of antennae: 47. 17. 27. 28. 28. 28. 28. 28. 28. 21. 20. 17. 17. 22; each segment from 3 to 9 has a complete transversal row of circular spots, where the cuticula is thin, but does not seem to bear ascoids; on each of the last 7 segments, the spots are not regularly disposed. Ratio of segments of palpi: 20. 41. 41. 48. The wing is rounded at its apex, and the vein R_4 ends anteriorly, but very close, to the wing apex. Dististyles bent at their distal $2/3$ and with a short branch on their inner side. Each cercopod with 10 or 11 spatulate tenacula.

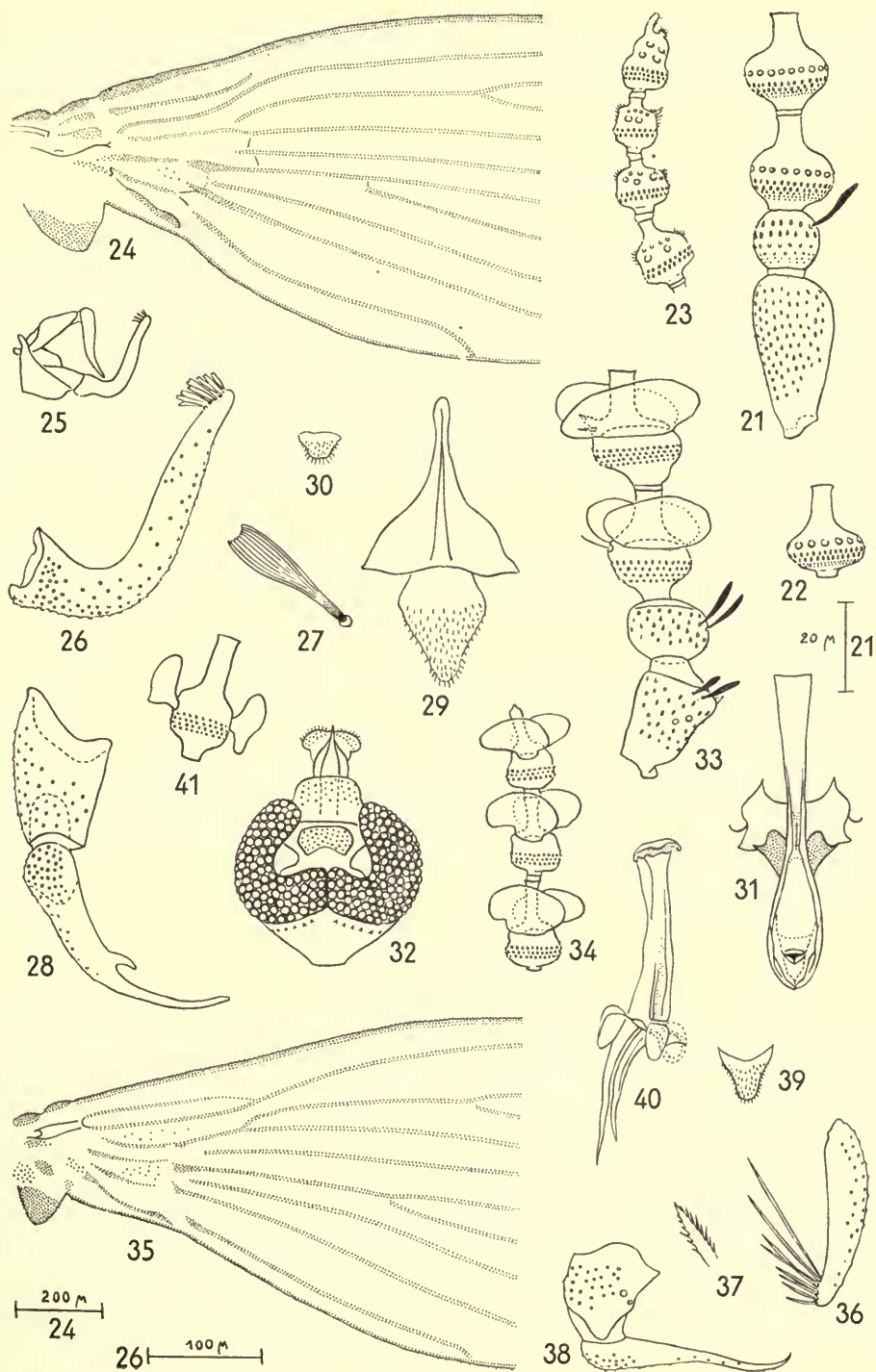
Wing length: 2.2 mm.

Holotype ♂. Below Tamrang Bridge, river bank, x-xi.1961.

T. arcuatus differs from most species of the subgenus *Telmatoscopus* with contiguous eyes and broad wings in its long curved forceps and bifurcate dististyles;

FIGS. 21-41. *Telmatoscopus* spp. 21-31. *T. arcuatus* sp. n., ♂. 21, base of antenna; 22, 9th segment of antenna; 23, tip of antenna; 24, proximal part of wing; 25, genitalia, side view; 26, right cercopod, side view; 27, tenaculum of cercopod, enlarged; 28, left forceps, dorsal view; 29, subgenital valvula and plate that is between the IXth sternite of the abdomen and the aedeagus, dorsal view; 30, anal valvula; 31, aedeagus, dorsal view. 32-40. *T. nepalensis* sp. n., ♂. 32, head, dorsal side; 33, base of antenna; 34, tip of antenna; 35, proximal part of wing; 36, right cercopod, side view; 37, tip of tenaculum, enlarged. 38, left forceps, dorsal view; 39, subgenital valvula; 40, aedeagus; 41. *T. nepalensis* sp. n., ♀, 9th segment of antenna, side view.

Figs. 24, 32, and 35 to the same scale; figs. 26, 28, 29-31, 36, and 38-40 to the same scale; figs. 21-23, 27, 33, 34, 37 and 41 to the same scale.



it differs from *T. praecipius* Quate and *T. maai* Quate from Borneo, which also have contiguous eyes and broad wings, in the proportions of the wings ; these are about 1.3 times as long as wide for these last two species, and about 3 times as long as wide for *T. arcuatus* sp. n.

***Telmatoscopus (Mormia) nepalensis* sp. n.**

(Text-figs. 32-42)

♂. A tuft of dark brown hairs on the forehead ; the rest of the head with tawny vestiture. Eyes contiguous on midline ; eye bridge with 4 rows of facets. Antennal ratio of segments : 34. 16. 32. 33. 30. 30. 30. 30. 30. 29. 29. 29. 26. 24. 24 ; a pair of wide flat leaf-shaped ascoids on each segment 3 to 16 ; segments 4 and 5 have in addition a short spine ; the neck of the segments 3 to 9 is eccentric. Ratio of segments of palpi : 23. 40. 40. 70. Thorax with light brown vestiture ; a dark brown tuft between the wings ; a strip of light yellow hairs on the median line and some hairs of the same colour on each side of the thorax. Light brown and light yellow hairs all over the legs. Nerves of the wing and posterior fringe with light yellow hairs ; anterior fringe light brown. Tip of wing rounded, between the apex of R_4 and that of R_5 ; the subcostal vein ends in the costal vein. Eight ramose tenacula on each cercopod. Aedeagus dissymetrical.

Wing length : 2.2 mm.

♀ (Text-figs. 41-42). Same vestiture as ♂. Eyes similar to those of ♂. Antennal ratio : 27. 16. 25. 23. 23. 23. 22. 22. 22. 21. 20. 19. 19. 19. 17. 18 ; ascoids much smaller than they are for the male. Ratio of palpus : 21. 38. 36. 57.

Wing length : 2.2 mm.

Holotype ♂. Sangu, spray splashed rocks in shallow ravine, 13.i.1962.

Paratype ♀ : same data as holotype ♂.

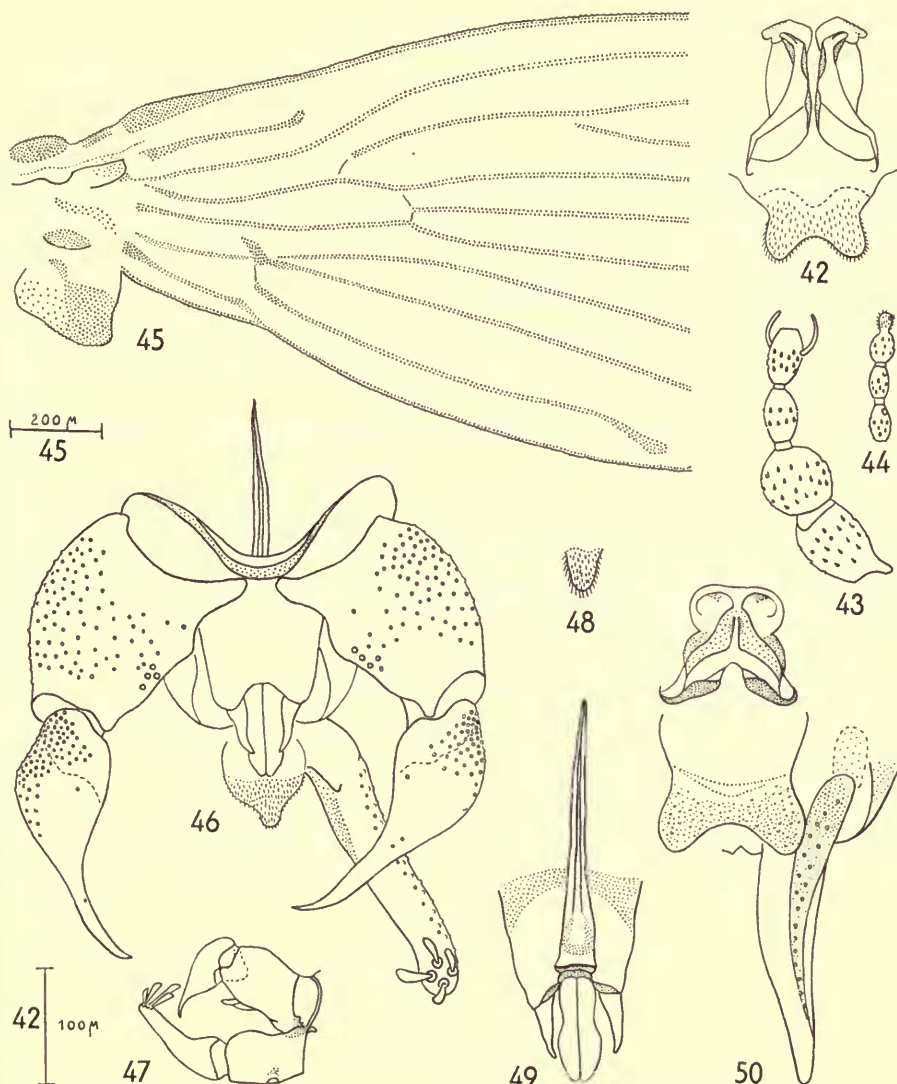
T. nepalensis can be considered as a *Mormia*, because the origin of the stem of the anterior fork is past the apex of the basal cell. It differs from the other species of *Mormia* in having no port-hole organs ; besides the necks of some flagellar segments are longer than the basal bulbs. *T. nepalensis* has contiguous eyes, and very few species of *Mormia* share this character.

***Pericoma coei* sp. n.**

(Text-figs. 43-50)

♂. Light yellow vestiture on all the head and body. Eyes separated by distance equal to almost 2 facets. Antennal ratio : 24. 17. 16. 16. 16. 16. 16. 15. 15. 15. 15. 15. 14. 11. 11. 13 ; 2 ascoids of equal length on segments 4 to 11, 2 ascoids of unequal length on segment 12, only one ascoid on segment 13, and no ascoid on segments 1, 2, 3, 14, 15 and 16 ; ascoids simple, rod-like. Ratio of palpus : 27. 33. 48. 75. Body with light yellow vestiture. Legs I and II : femur and tibia with light grey hairs and a few brown ones ; nevertheless, the apex of the tibia has a white covering ; first segment of the tarsus black on its proximal 1/3, white on its distal part ; 4 other segments of the tarsus with black vestiture. Legs III : same covering ; but there are only a few white hairs at the apex of the tibia, and a few black ones at the base of the first segment of the tarsus. Wing with tawny covering, but with several patches of hairs of another colour ; one large white patch at the apex of the first basal cell, a smaller one on the medial fork and an oblique transverse patch between the two other ones ; a patch of black hairs on the 1/3 of nerve R_1 , another one on the median fork and one at the tip of each of the nerves R_6 , M_1 , M_2 , M_3 and Cu ; the fringe is grey on the proximal part of the wing, black on the anterior edge, white at the

apex, and tawny on the posterior edge; the medial fork is before the level of the tip of *Cu* and the radial fork is distal to it. Apex of the wing closer to tip of *R*₅ than to tip of *R*₄. Halteres with light yellow scales on rod and dark ones on knob. Each cercopod with 4 tenacula; dorsal plate of the genitalia with two pointed lobes.



FIGS. 42-50. *Telmatoscopus* and *Pericoma* spp. 42. *T. nepalensis* sp. n., ♀, subgenital plate and armature of genital accessory vesicles, ventral view. 43-49. *P. coei* sp. n., ♂. 43, base of antenna; 44, tip of antenna; 45, proximal part of wing; 46, genitalia, dorsal view; 47, genitalia, side view; 48, anal valvula; 49, aedeagus, ventral view. 50. *P. coei* sp. n., ♀, subgenital plate, left half of ovipositor, and armature of genital accessory vesicles, ventral view.

Figs. 42-44, 46, 48-50 to the same scale.

Wing length : 2.5–2.6 mm.

♀ (Text-fig. 50). Same colour as ♂. Segments 4 to 13 of the antennae with ascoids of equal length ; segments 1, 2, 3, 14, 15 and 16 without ascoids ; ratio : 12. 20. 13. 17. 17. 16. 15. 15. 15. 15. 15. 12. 11. 12. Ratio of segments of palpi : 27. 35. 48. 77.

Wing length : 2.5 mm.

Holotype ♂. Sangu, rotting fruits of Bhor tree on ground, 7–31.x.1961.

Paratypes: 1 ♂, 1 ♀, same data as holotype ; 3 ♂, Sangu, mixed vegetation by stream in gully, xi.1961.

P. coei sp. n. is closely allied to several European species, especially to *P. palustris* (Meigen), to *P. trivialis* Eaton, and to *Pericoma* of the *unispinosa* group. It differs from the first two species in having two pointed lobes on the dorsal genital plate of the male ; it differs from the *Pericoma* of the *unispinosa* group in having 4 tenacula of equal size on each cercopod of the male.

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